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(71) Applicant
Weatherseal Windows Limited,

(Incorporated in United Kingdom),

Turner Street, Lees, Oldham, Lancashire OL4 3JU

(72) Inventor
Alan Storey

(74) Agent and/or Address for Service
M'Caw & Co., 41-51 Royal Exchange, Cross Street,
Manchester M2 7BD

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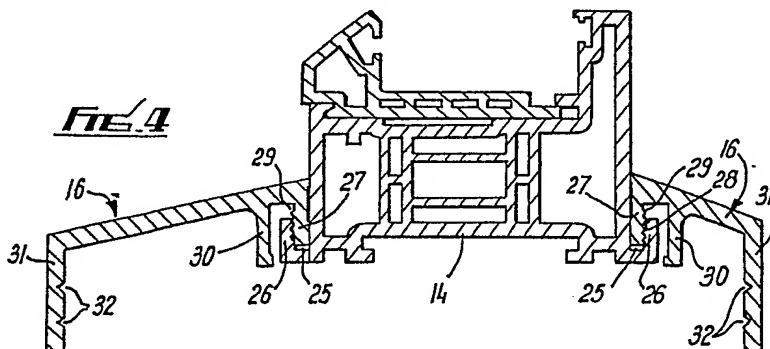
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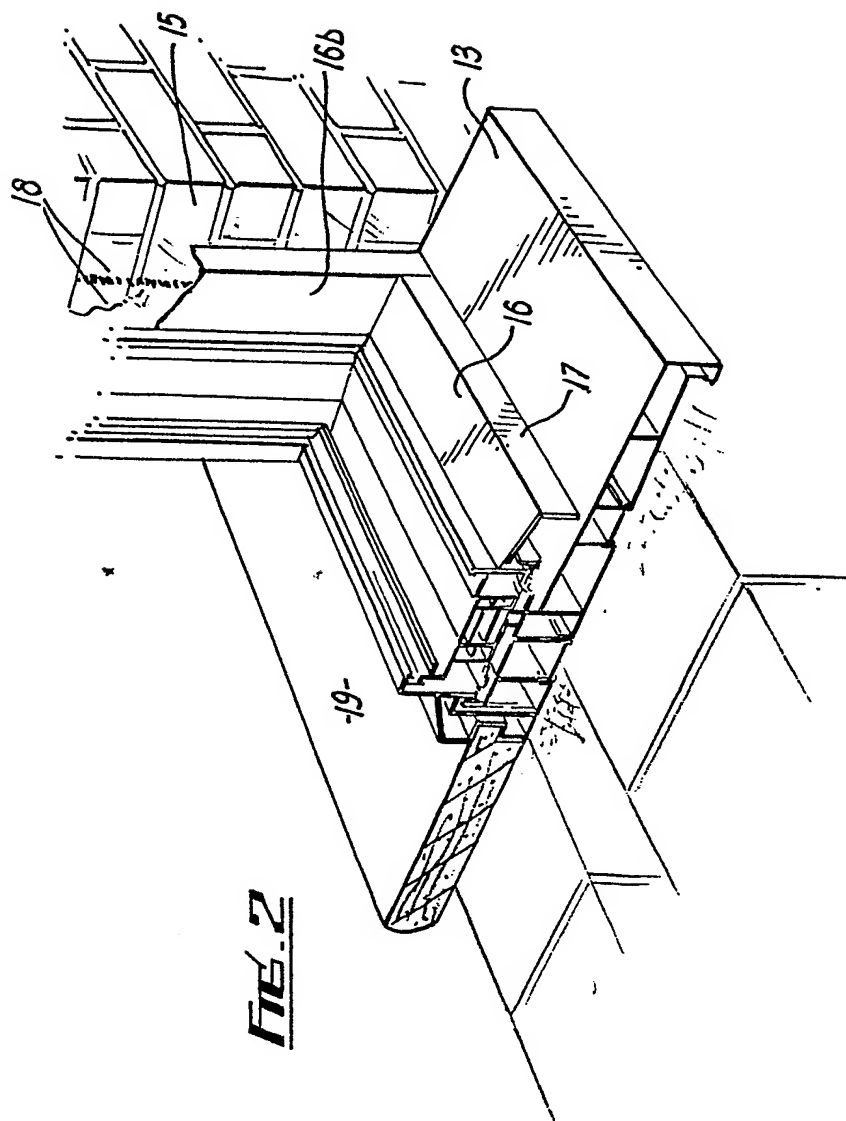
(56) Documents cited
GB A 2119428 **GB 1158557**
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E1J
Selected US specifications from IPC sub-class E06B

(54) **Window framing**

(57) Window framing consists of a plurality of frame-forming bars (14) with each of which is associated at least one fillet bar (16) which is interengaged with frame bar (14) by such means (25, 26, 27) which allows bar (16) to move in a direction which has at least a component parallel to the plane of the frame. The fillet bars (16) can be applied to the frame bars (14) after installation thereof to replace an old frame and can serve to conceal damage to surrounding structure caused during removal of the old frame. They might provide an external drip deflector, or a combustion channel.





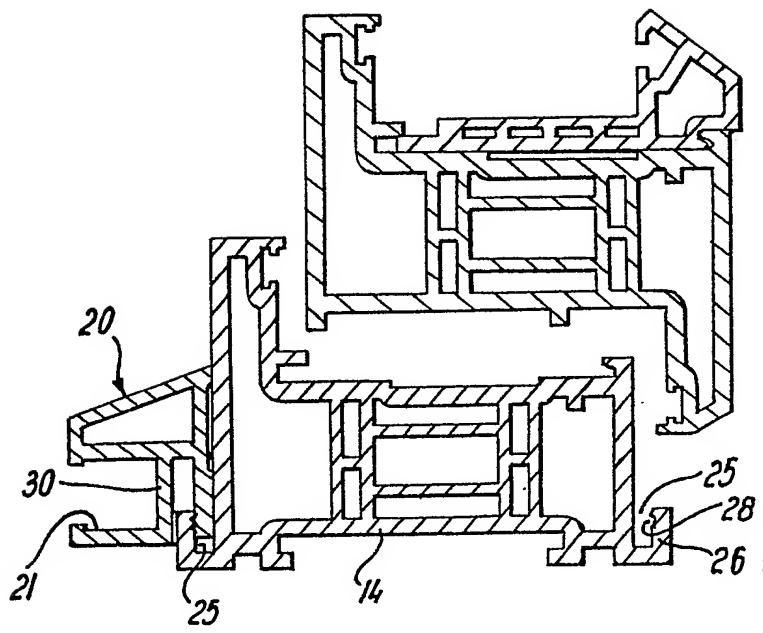


FIG. 3

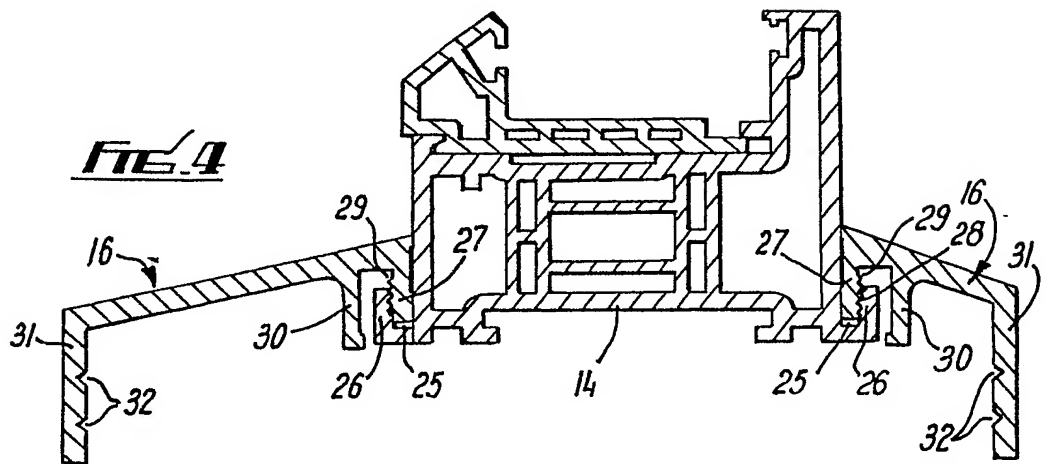


FIG. 4

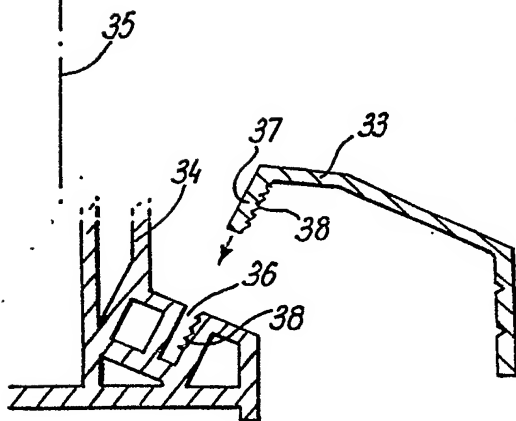
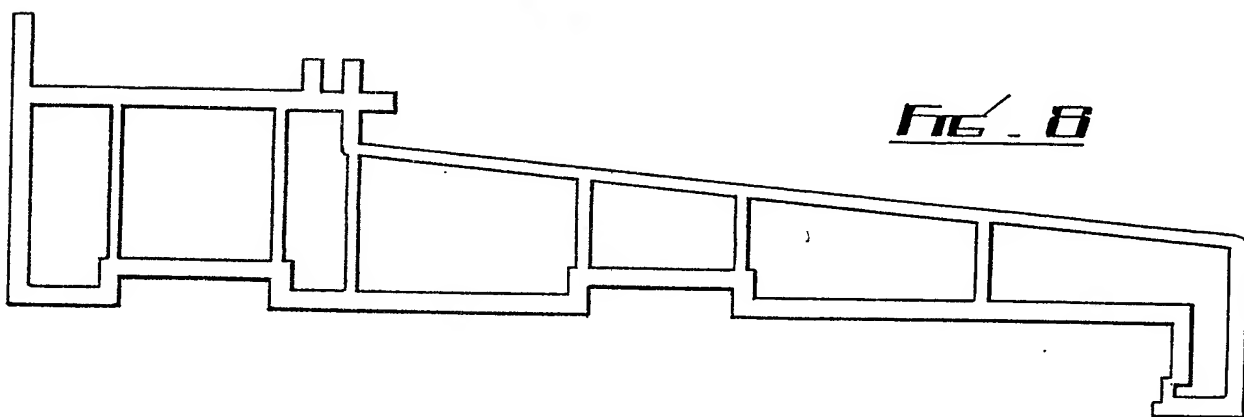
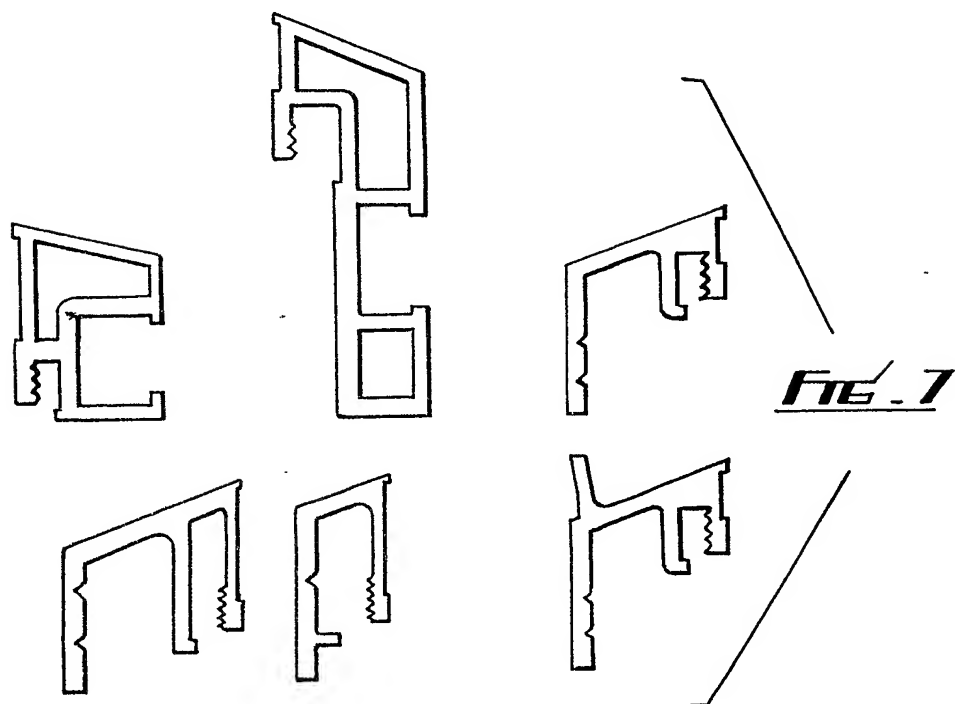
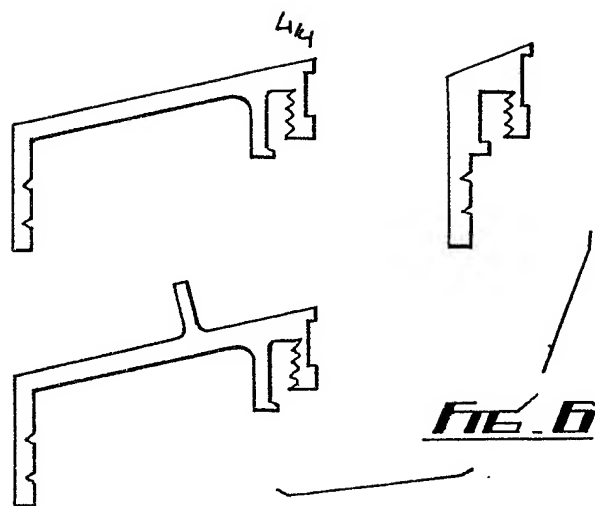


FIG. 5



SPECIFICATION

Window framing

5 This invention relates to window framing. When existing, e.g. wooden window frames are removed and replaced by frames made from plastics material such as U.P.V.C., it is normally unavoidable that decoration and plaster around the inside periphery of the window opening are damaged and this can necessitate complete re-papering of a room. Additionally plastics frames are often thinner than wooden frames and this can mean that damaged and/or paint-covered brickwork or masonry is exposed on the outside periphery of the window opening after a plastics frame has been installed. The extent of such damage or marking is variable from job to job depending on the size and nature of the replaced frames.

It is an object of the present invention to provide a combination of a window-frame-forming bar (hereinafter referred to simply as a "frame bar") and a fillet bar which are complementary and adapted to enable the aforesaid damage to be easily and conveniently concealed.

Accordingly the invention provides a combination of a frame bar and a fillet bar, the bars having complementary formations enabling the fillet bar to be push-fitted onto the frame bar in a direction which includes a component parallel to the plane of the window glazing and to have a variable degree of engagement with the frame bar to enable such degree to be chosen to allow the fillet bar to be so engaged to an extent compatible with close engagement of a surface of the fillet bar with undamaged window surround structure spaced from the frame bar.

The complementary formations can be plug and socket formations either extending continuously along the bars or provided at spaced intervals therealong. The frame bar can have the socket(s) and the fillet bar can have the plug(s) or *vice versa*.

The plug(s) can be a friction fit in the socket(s). The or each plug and socket can have sawtooth or ribbed engagement allowing penetration to a greater or lesser extent with restraint on extraction.

When the frame bar is an extrusion, a plug or socket formation is conveniently formed on one or both sides thereof during extrusion, a complementary formation being similarly formed on the fillet bar.

Preferably said direction is parallel to the plane of glazing within the window.

The frame bar will normally be produced as a continuous length and then cut, four or more pieces then being joined, as by mitre joints, to form a frame. Individual lengths of the fillet bar are preferably cut after installation of the frame and pressed into position.

The fillet bar can have a web whose free end provides said surface of the fillet bar, the web can have lines of weakness, such as score lines, or markings, which facilitate trimming of the width of such web to suit different applications.

The fillet bar can serve additional purposes, for example it can provide a cover for a window-adjacent portion of an internal or external cill or sub-cill, and can also provide a receiving formation and or a loca-

tion determinant for an internal or external cill or sub-cill. The fillet bar can also be shaped to provide a drip or deflector for the exterior surround of a window or to provide a condensation-receiving channel for an internal lower edge of a window.

The invention will be described further, by way of example, with reference to the accompanying drawings which illustrate a preferred embodiment thereof, it being understood that the following description is illustrative of and not limitative of the scope of the invention. In the drawings:

Figure 1 is a general perspective view showing a window structure including the combination of the invention;

Figure 2 is a view similar to that of *Figure 1* but showing the exterior of the structure;

Figure 3 is an enlarged cross-sectional view showing an exemplary frame bar and fillet bar combination of the invention;

Figure 4 is a view similar to that of *Figure 3* but showing fillet bar variants;

Figure 5 is a fragmentary cross-sectional view showing a constructional variant of the combinations of the invention;

Figure 6 illustrates in cross-section a set of different fillet bars usable with frame bars in various combinations of the invention;

Figure 7 is a view similar to *Figure 6* showing a further set of fillet bars; and

Figure 8 shows, in cross-section, a sub-cill used in the structure of *Figures 1* and *2*.

Referring firstly to *Figures 1* and *2*, a typical window frame structure made from plastics (UPVC) material has been disposed in a window opening to replace an existing wooden frame. The window opening is provided in a wall which has two brickskins 10, 11 and a cavity 12 therebetween. The frame structure bridges the cavity 12. The structure comprises an exterior sub-cill 13 which rests on the top edge of brick skin 10 and supports a lower frame bar 14 of the window frame. The outer periphery of the frame lies adjacent the upper surface of the sub-cill 13 along the lower edge of the frame. Vertical edges and the top edge of the frame lie adjacent the brickwork 15 or masonry of the outer skin 10.

The junction between lower frame bar 14 and sub-cill 13 is covered by a fillet bar 16 engaged with the bar 14 and resting by the lower edge of skirt web 17 on sub-cill 13. Fillet bar 16 provides a neat transition from sub cill 13 to frame bar 14. Along the vertical side edges of the frame (*Figure 2*) and along the top frame bar (not illustrated) a similar fillet bar 16*b* is provided and engages with the frame bars 14 as will be later described. Bars 16*b* extend to cover damaged and/or painted brickwork at 18.

The junction between the inner face of horizontal frame bar 14 and an internal window board 19 is covered by an internal fillet bar 20 which simultaneously provides a locating channel 21 for a lip 22 on board 19. Around the vertical edges and the top horizontal edge the junctions between the inner faces of frame bars 14 and the internal wall surfaces is covered by fillet bars 23 secured to bars 14 and of shape similar to fillet bar 16, 16*b*, bars 23 serving to cover damaged plaster and/or wall coverings as illus-

trated at 24.

The actual forms of the frame bar 14 and typical fillet bars 16, 20 are shown in greater detail in Figures 3 and 4.

5 It will be seen that frame bar 14 has along each of its outer edges, i.e. edges remote from the glazing panel, a channel 25 defined between its face 14a and an integral flange 26 lying parallel to face 14a. One or more of the internal faces of the channel 25 can be 10 formed with ridges and/or depressions 28, for example a saw-tooth patterning (Figure 5). Each such channel 25 can receive a complementarily shaped web 27 on fillet bar 16 or 20, such web 27 also having complementary formations 29. A second web 30 on 15 fillet bar 16, 20 can stabilize it relative to the flange 26.

Each fillet bar 16 has a free web or skirt 31 which, in use, engages a surface of an adjacent component or structure. Web 31 is provided with weakening grooves 32 which enable its extent to be trimmed to 20 suit the dimensions of the structure formed when the window framing arrangement is disposed in position in the wall structure surrounding the opening. Minor variations in shape, for example slight convexity or concavity in the wall surfaces, can be accommodated 25 by pressing webs 27 into grooves 25 to a greater or lesser degree. In fact on installation contact of the end surface of web 31 with its mating surface will cause such differential depth engagement to occur upon the fillet bars being press-fitted to the frame 30 bars.

Figure 5 illustrates a variation where the direction of engagement of a fillet bar 33 with the frame bar 34 is not parallel to the plane 35 of a glazing panel. Here the frame bar 34 has an inwardly sloping channel 36 35 and the fillet bar 34 has a similarly disposed flange 37.

The operation of this embodiment is comparable to the operation of the previous embodiments, the only difference is that in engagement movement the 40 fillet bar 33 will have a component of motion towards the frame bar 34. Figures 5 illustrates how the cooperating plug-and-socket arrangement between the frame bar and fillet bar can be formed with cooperating sawtooth formations 38 which make insertion re- 45 latively easy and withdrawal relatively more difficult.

Figures 6 and 7 illustrate various shapes of fillet bars which can be used with frame bars 14 to provide various functions around the inner or outer periphery of a window, and Figure 8 shows the shape of 50 sub-cill 13 in greater detail.

It will be appreciated that the invention is not limited to the details of the foregoing embodiments. For example the dispositions of the plug and socket formations can be reversed if desired from frame bar to 55 fillet bar. Instead of continuous formations along each bar such formations could be provided at spaced intervals. The ribbed surfaces on the grooves and channels could be replaced by a simple friction or push fit with which a solvent adhesive could be 60 used if desired.

Many other variations are possible.

CLAIMS

65 1. A combination of a frame bar and a fillet bar,

the bars having complementary formations enabling the fillet bar to be push-fitted onto the frame bar in a direction which includes a component parallel to the plane of the window glazing and to have a variable 70 degree of engagement with the frame bar to enable such degree to be chosen to allow the fillet bar to be engaged to an extent compatible with close engagement of a surface of the fillet bar with undamaged window surround structure spaced from the frame 75 bar.

2. A combination as claimed in claim 1 wherein the complementary formations are plug and socket formations.

3. A combination as claimed in claim 1 or 2 80 wherein the formations extend continuously along the bars.

4. A combination as claimed in claim 1 or 2 wherein the formations are provided at spaced intervals along the bars.

85 5. A combination as claimed in claim 2 wherein the frame bar has the socket(s) and the fillet bar has the plug(s) or *vice versa*.

6. A combination as claimed in any of claims 2 to 5 wherein the plug(s) is/are a friction fit in the 90 socket(s).

7. A combination as claimed in any of claims 2 to 5 wherein the or each plug and socket has sawtooth or ribbed engagement allowing penetration to a greater or lesser extent with restraint on extraction.

95 8. A combination as claimed in any preceding claim wherein the frame bar is an extrusion and a plug or socket formation has been formed on one or both sides thereof during extrusion and wherein a complementary formation has been similarly formed 100 on the fillet bar.

9. A combination as claimed in any preceding claim wherein said direction is parallel to the plane of glazing within the window.

10. A combination as claimed in any preceding 105 claim wherein individual lengths of the fillet bar have been cut after installation of the frame and pressed into position.

11. A combination as claimed in any preceding claim wherein the fillet bar can have a web whose free end provides said surface of the fillet bar, the web having lines of weakness, such as score lines, or markings, which facilitate trimming of the width of such web to suit different applications.

12. A combination as claimed in any preceding 115 claim wherein the fillet bar provides a cover for a window-adjacent portion of an internal or external cill or sub-cill.

13. A combination as claimed in any preceding claim wherein the fillet bar also provides a receiving 120 formation and or a location determinant for an internal or external cill or sub-cill.

14. A combination as claimed in any preceding claim wherein the fillet bar is shaped to provide a drip or deflector for the exterior surround of a window.

125 15. A combination as claimed in any preceding claim wherein the fillet bar is shaped to provide a condensation-receiving channel for an internal lower edge of a window.

16. A method of forming a window frame which 130 includes arranging a plurality of frame members to

frame an aperture and providing a like plurality of fillet members each forming, with a corresponding one of said frame members a combination as claimed in any preceding claim, each said fillet member serving
5 to cover damage caused to adjacent wall structure upon removal of old window framing.

17. A method as claimed in claim 16 wherein said fillet bars are applied to both the inside and outside peripheries of the frame.

10 18. A method as claimed in claim 16 or 17 wherein the combination is as claimed in claim 11 and each fillet member is trimmed before installation.

15 19. A method of installing a window substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

20 20. A combination of a frame bar and a fillet bar for a window frame substantially as hereinbefore described with reference to the accompanying drawings.